

**Mars Global Surveyor
Radio Science Team Meeting**

Mission Status

**22 June 2000
Toulouse, France**

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MGS Project Status

- **MGS is healthy**
- **Completed the first year of Mapping and 5000+ orbits**
- **Beta-Supplement operations continue to June 2001**
- **The “pitchover” technique has replaced Fixed-HGA mode for monthly egress measurements**
- **Bistatic Radar measurements of MPL/DS2 landing zone conducted**
- **Monthly MOLA polar measurements have begun**
- **MOLA will be turning off every other month (now off to 1 Aug.)**
- **'01 Orbiter Critical Design Review held June 1-2, 2000**
- **'03 Plans: two proposals**
- **MSOO into a multi-mission TMOD office**
- **Joe Boyce is MGS program scientist**

Extended Mission

- **Strategy and rational being developed**
- **Feb. 1, 2001 - April 22, 2002**
- **Limited by propellant available**
- **Could add up to 7 months if the Planetary Quarantine strategy is changed**
- **Possible strategies include:**

Many off-NADIR (targeted) observations, esp. for site certification

Guest investigator requests

Continuation of current investigations

Solar Conjunction

- Sequences mm050 and mm051 cover June 22 through July 12, 2000
- June 25 through July 7 is a command moratorium
- During the command moratorium, MGS will be Earth-pointed and transmitting only 2 orbits per day
- During the remainder of the solar conjunction period, MGS will be Earth-pointed and transmitting 5 orbits per day
- 59.9 degree mod index for this entire period (more carrier power)
- SPK and OPTG prediction files will be used for up to 44 days
- Theses files will also be used for mm052 and mm053 (error up to 100 seconds)
- TES equator crossings will be used to help determine the error in the NAV solutions
- Extra timing pad will be added to the sequence to ensure that the HGA will not hit the boom when it begins autotracking

Plans and Operations

- **Egress Measurements - “Pitchover”**
- **Fixed-HGA mode caused the MOLA temperature to drop too low**
- **The new “pitchover” technique was approved**
- **The spacecraft pitches such that the HGA is Earth-pointed for egress**
- **The pitchover is held until the NADIR deck is once again NADIR pointed**
- **At that time the spacecraft returns the HGA to autotracking for the remainder of the orbit**
- **This significantly decreases the data loss for the other instruments**
- **The MCR was approved for up to two sets of 12 egress measurements per month. The two sets would be within a week of one another**
- **The 12 measurements provide a good longitude sampling**
- **Ranging has not been conducted for a while**